

What is claimed is:

1. A microchip comprising:

a specimen flow pass that is a fine pass allowing a specimen to be transported toward one end thereof;

a reagent flow pass that is a fine pass connected with the one end of the specimen flow pass, said reagent flow pass allowing at least one reagent to be transported for reaction with the specimen;

a confluence flow pass that extends from the one end of the specimen flow pass, the confluence flow pass allowing the confluent specimen and reagent to be transported therethrough;

a sensing portion provided at a position adjacent to a part of the confluence flow pass, wherein a reaction of the specimen and the reagent is capable of being detected or observed thereat; and

force applying means for reciprocally moving the specimen and the reagent at the sensing portion.

2. A microchip claimed in claim 1, wherein the specimen flow pass, the reagent flow pass, and the confluence flow pass are provided with at least one micro pump.

3. A microchip claimed in claim 2, wherein the micro pump is capable of bi-directional suction and discharge.

4. A microchip claimed in claim 1, wherein the sensing portion has light guiding properties and extends continuously and is adjacent to the exterior of the microchip and the confluence flow pass and mixing flow pass.

5. A microchip as claimed in claim 1, wherein the sensing portion comprises a window through which a sensor

provided exterior of the microchip observes a reaction of the specimen and reagent.

6. A microchip as claimed in claim 1, wherein microparticles are contained in the confluent specimen and reagent.

7. A microchip as claimed in claim 1, wherein the reagent flow pass comprises a plurality of branches so as to allow the flow of a plurality of reagents.

8. A microchip as claimed in claim 7, wherein the branches join at a location other than the one end of the specimen flow pass.

9. A microchip comprising:

a mixing flow pass that is a fine flow pass allowing a specimen to be transported therethrough, the mixing flow pass has a reagent loading unit for holding reagent to be added to and reacted with the specimen;

a sensing portion, provided at a location adjacent to the mixing flow pass, at which a reaction of the specimen and the reagent is capable of being detected or observed; and

force applying means for reciprocally moving the specimen and the reagent at the sensing portion.

10. A microchip claimed in claim 9, wherein the mixing flow pass is provided with at least one micro pump.

11. A microchip claimed in claim 10, wherein the micro pump is capable of bi-directional suction and discharge.

12. A microchip claimed in claim 9, wherein the sensing portion has light guiding properties and extends continuously and is adjacent to the exterior of the

microchip and the confluence flow pass and mixing flow pass.

13. A microchip as claimed in claim 12, wherein the sensing portion comprises a window through which a sensor provided exterior of the microchip observes a reaction of the specimen and reagent.

14. A microchip as claimed in claim 9, wherein microparticles are contained in the confluent specimen and reagent.

15. A microchip as claimed in claim 9, wherein the reagent loading unit preliminarily fix the reagent until reagent is added to the specimen.

16. A microchip comprising:

a fine flow pass allowing a liquid containing a specimen to flow therethrough; and

a micro pump having a first diffuser on one end of a chamber and a second diffuser on the other end of the chamber, the first diffuser being connected to the fine flow pass,

wherein a flow pass impedance of the first diffuser under a first pressuring condition of a chamber of the micro pump is greater than that of the second diffuser under the first pressuring condition, and wherein a flow pass impedance of the first diffuser under a second pressuring condition of the chamber is smaller than that of the second diffuser under the second pressuring condition.

17. A reaction detection method comprising the steps of:

a first step of adding reagent to a specimen within a fine flow pass of a microchip;

a second step of causing a reciprocal movement along the flow pass to the specimen to which the reagent has been added; and

a third step of detecting a change in the reciprocal movement due to a reaction of the specimen and the reagent within the flow pass.

18. A reaction detection method as claimed in claim 17, wherein microparticles are added to the specimen in the first step, and wherein a reciprocal movement of the microparticles are detected in the third step.

19. A reaction detection method as claimed in claim 18, further comprising a fourth step of measuring a time period until the reciprocal movement of the microparticles stops.

20. A reaction detection method as claimed in claim 17, wherein pressures of a predetermined magnitude are applied to the specimen to which the reagent has been added.

21. A microchip comprising:

a fine flow pass through which a specimen and a reagent are capable of being transported;

a sensing portion provided adjacent to a part of the fine flow pass; and

force applying means for reciprocally moving the specimen and the reagent at the sensing portion.

22. A microchip claimed in claim 21, wherein the fine flow pass is provided with at least one micro pump.

23. A microchip claimed in claim 22, wherein the micro pump is capable of bi-directional suction and discharge.

24. A microchip claimed in claim 21, wherein the sensing portion has light guiding properties and extends continuously and is adjacent to the exterior of the microchip and the confluence flow pass and mixing flow pass.

25. A microchip as claimed in claim 24, wherein the sensing portion comprises a window through which a sensor provided exterior of the microchip observes a reaction of the specimen and reagent.